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(54) EXTRACTION AND PURIFICATION OF RNA

(57)Abstract:

PROBLEM TO BE SOLVED: To purify an RNA in a high purity for a short time without requiring complicated operations by adding a lytic liquid containing a chaotropic substance, an organic solvent and a nucleic acid-bonding solid-phase carrier to a biological material such as a cell under acidic conditions, washing the resultant solid-phase carrier adsorbing the RNA thereon and treating the washed solid-phase carrier with an eluent.

SOLUTION: A lytic liquid at pH 3-6 containing a chaotropic substance such as a guanidine thiocyanate, an extracting liquid comprising an organic solvent such as a water-saturated or a buffer solution-saturated phenol and a nucleic acid-bonding solid-phase carrier comprising particles, etc., containing a superparamagnetic metallic oxide are added, mixed or brought into contact with a biological material such as a cell under acidic conditions to adsorb an RNA contained in the biological material on the solid-phase carrier. The solid-phase carrier adsorbing the RNA thereon is then washed with a wash liquid and the RNA is eluted from the washed solid-phase carrier with an eluent to thereby extract and purify the RNA from the biological material such as the cell in a high purity for a short time without requiring complicated operations.